

## **Accomplishments**

Our goal for Sprint 2 was to develop the core functionalities for our personal knowledge management system, Theory Board. This included features such as user authentication, a dynamic network-note-taking system, and real-time updates. We were able to complete what we needed to do for this Sprint successfully and create a fully functioning backbone and demo for our project.

The first major accomplishment was to create the user authentication system. Users are able to properly register and create their own account as well as be able to log in and log out of their account. This way, everyone's notes are secure to themselves only and other people will not be able to access their notes. Once a user logs in, they will be able to access their notes and edit the notes as they please.

The next major accomplishment was to actually create a functioning graph. In the graph, there are multiple "nodes" and "edges." The nodes are circles that when clicked on open up the note that corresponds with the node, and the edges are links between each note. This way, it makes an almost "tree-like" branching system for notes so that you can link notes together in an organized manner. You are able to move the nodes around so that you can make it visually appeal to your idea.

Along with the graph, we had to create the note system itself. You can create notes, edit the notes once they have been created, link separate notes, unlink notes, and delete notes as well. On top of this, whenever you do so, everything updates on the graph so when you create a note, a new node will pop up or when you delete a link, the edge between nodes will disappear. There was a drop-down menu created that lets you create the notes and when you open the notes, it will open

it on the right-hand side with an option to let you view the notes, edit the notes, and save the notes as well.

After that, we had to make them function real time. Originally, the changes only appeared after you refreshed the page. However, after working with the React states, we were able to make it so that they would update as soon as you hit the buttons, such as create, unlink, save, etc.

Lastly, we worked on the UI a bit so that we were able to make it more visually appealing. We added a red theme to the project so that it would look more visually appealing to the user's eyes and give it a theme, rather than the bland color scheme it originally had.

We started a bit on creating a project storage system; however, we only created the initial parts of it and have not worked on it that much.

## **Challenges**

Some of the major challenges that were faced by the team were time issues and some coding issues.

We had issues with time management or responsiveness, so some people did not end up doing their work which was a major setback since it made 2 people have to do all of the work in the project.

Some issues were with the code itself, such as the graph visualization being buggy and creating duplicate graphs to overlap themselves or cover each other. These were fixed by some debugging and assigning z-layers to certain parts. Some other issues were with the CSS not working properly with other parts of the code not functioning due to some commands being forgotten such as `/npm install`, but these were fixed with basic refreshers as well.

There were some event binding issues in which certain events did not occur when they were supposed to, such as when clicking nodes did not open up the notes. This was solved by binding the node to its corresponding note ID and updating the events with it.

### **Client Feedback**

The client feedback received was that the demo looked really good and that we should continue working how we are. Some parts that we should work on for the next Sprint are search functionality and tagging system. We have also started a user story for creating separate projects, so that people will be able to organize their notes easily, in a sense that they can create separate “folders” for each note, such as a “folder/project” for Science and another one for Math, or whatever topics they want them to be.